

REMARKS

Claims 3, 5, 9, and 10 are pending in the application. Favorable reconsideration in light of the remarks which follow is respectfully requested.

The Obviousness Rejection

Claims 3, 5, 9, and 10 have been rejected under 35 U.S.C. § 103 over Hartley et al (U.S. Patent 6,054,420) in view of Kimura (JP 07-305079). Hartley et al relates to a biodegradable lubricant containing a synthetic ester base oil, a different second ester, and an additive package. In Hartley et al, the synthetic ester base oil can be made from an C5-C10 aliphatic carboxylic acid (Col. 1, lines 53-54) and a neopentyl glycol (Col. 2, line 3). Kimura discloses that a lubricating oil that contains a polyether polyol fatty acid ester obtained by adding 1 to 10 mol of an alkylene oxide to a neopentyl polyol, and esterifying the obtained adduct and a fatty acid having 8 to 22 carbon atoms.

The Examiner contends that it would have been obvious to use the mole ratio of alkylene oxide to alcohol in paragraph [0018] of Kimura in order to make the synthetic ester base oil of the biodegradable lubricant of Hartley et al. The Examiner further contends that the dynamic viscosity, viscosity index and total acid value of Hartley et al would be the same as those in claim 3. Applicants respectfully disagree with both contentions.

One skilled in the art would NOT have used the mole ratio of alkylene oxide to alcohol in paragraph [0018] of Kimura in order to make the synthetic ester base oil of Hartley et al. This is because the polyether polyol fatty acid ester of Kimura is fundamentally a different chemical compound compared to the synthetic ester base oil of Hartley et al. Specifically, the synthetic ester base oil of Hartley et al is an alcohol-ester made from a carboxylic acid and an alcohol. Hartley et al clearly fails to teach or suggest forming an ethylene oxide adduct of an alcohol. Contrary to the teachings of Hartley et al, Kimura describes a polyether polyol fatty acid ester obtained by adding an alkylene

oxide to a polyol, and esterifying the obtained adduct with a fatty acid. In other words, Hartley et al does not use ethylene oxide to form an ethylene oxide adduct of an alcohol before making its alcohol-ester.

Since Hartley et al does not use ethylene oxide to form an ethylene oxide adduct of an alcohol, one skilled in the art would NOT have used the mole ratio of alkylene oxide to alcohol in paragraph [0018] of Kimura (because there is NO alkylene oxide and alcohol in Hartley et al to form the basis of a ratio). This is important because the ethylene oxide adduct of a neopentyl glycol (as required by claim 3) contributes to the unique dynamic viscosity, viscosity index, and total acid value properties in claim 3. However, Hartley et al fails to teach or suggest an ethylene oxide adduct of an alcohol. In the paragraph bridging pages 7 and 8 of the instant specification, the problems associated with forming an ester without any ethylene oxide such as the ester in Hartley et al are described (undesirably low viscosity index and undesirably low viscosity).

Since one skilled in the art would NOT have applied the alkylene oxide mole ratio of Kimura to forming the synthetic ester base oil of Hartley et al (because Hartley et al does not use alkylene oxide to apply an alkylene oxide mole ratio), claim 3 is non-obvious and patentable.

Furthermore, since the lubricating base stock of claim 3 is chemically different from the biodegradable lubricant of Hartley et al, the dynamic viscosity, viscosity index and total acid value of Hartley et al would NOT be the same as the dynamic viscosity, viscosity index and total acid value of the lubricating base stock of claim 3. Hartley et al describes an alcohol-ester made from a carboxylic acid and an alcohol while claim 3 uses an ethylene oxide adduct of an ester. Nor would one skilled in the art expect the dynamic viscosity, viscosity index and total acid value of the biodegradable lubricant of Hartley et al to be the same as the dynamic viscosity, viscosity index and total acid value of the lubricating base stock of claim 3 because there are problems associated with forming an ester without any ethylene oxide, as described in the paragraph

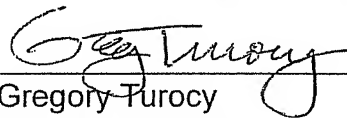
bridging pages 7 and 8 of the instant specification. For this additional reason, claim 3 is non-obvious and patentable.

Should the Examiner believe that a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

In the event any fees are due in connection with the filing of this document, the Commissioner is authorized to charge those fees to our Deposit Account No. 50-1063.

Respectfully submitted,

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A handwritten signature in cursive script, appearing to read "Greg Turocy", is written over a horizontal line.

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